No. 848,449. PATENTED MAR. 26, 1907.

DE ROY DEKLE.

WATCHMAKER'S TOOL.

APPLICATION FILED NOV. 19, 1906.

Fig. 1.

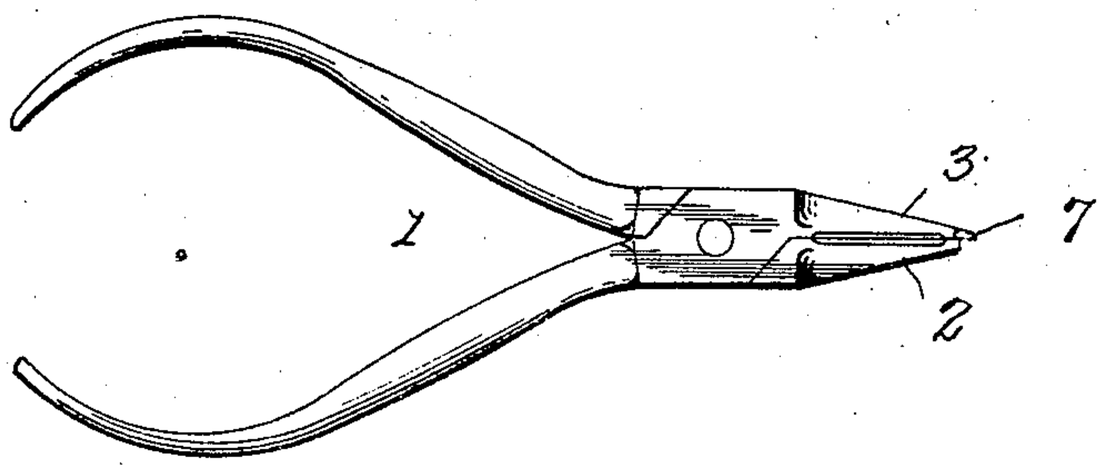


Fig. 2.

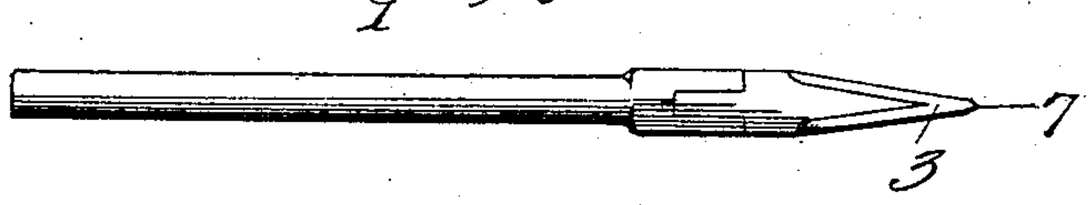


Fig. 3.

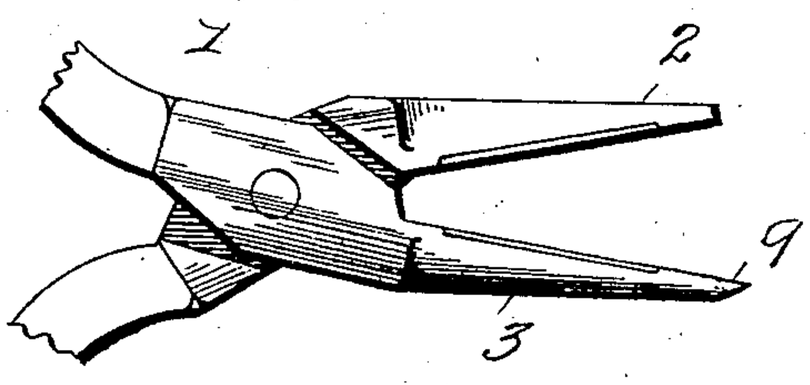


Fig. 4.

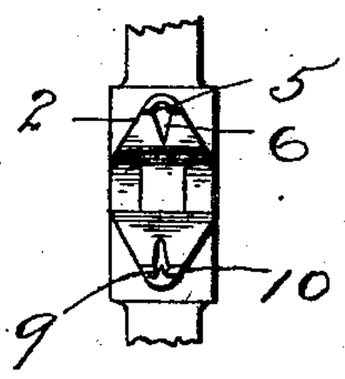


Fig. 5.

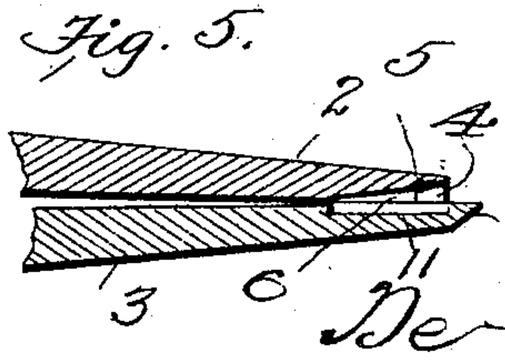


Fig. 6.

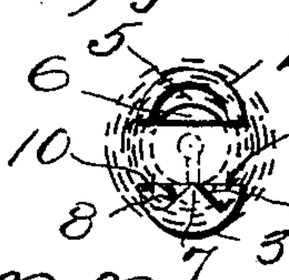
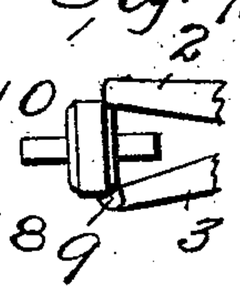


Fig. 7.



Witnesses
Chas. K. Davies.
H. E. Moore

Inventor
De Roy Dekle
By Jno. J. Moore.
Attorney

UNITED STATES PATENT OFFICE.

DE ROY DEKLE, OF McRAE, GEORGIA.

WATCHMAKER'S TOOL.

No. 848,449. Specification of Letters Patent. Patented March 26, 1907.

Application filed November 19, 1906. Serial No. 344,035.

To all whom it may concern:

Be it known that I, DE ROY DEKLE, a citizen of the United States, residing at McRae, in the county of Telfair and State of Georgia, have invented certain new and useful Improvements in Watchmakers' Tools, of which the following is a specification.

My invention relates to improvements in watchmakers' tools, and refers particularly to a device for removing the hair-spring from the balance-wheel staff of a watch.

The object of my invention is the provision of such a tool which may be used for handling hair-springs of various sizes and which will remove the spring without injury to the balance-wheel, the staff, or the spring itself.

A further object of the invention is the provision of a tool of the class set forth which while adapted for performing a special work may as well be used for the ordinary purposes of pliers or tweezers, which is simple and durable in construction, and thoroughly practical in operation.

To attain the desired objects my invention consists, essentially, of a pair of pliers the jaws of which are formed at their extremities with coacting means for gripping and simultaneously spreading or opening the collet or split ring carrying the hair-spring to thereby release the collet from the balance-wheel staff.

My invention further comprises a watchmakers' tool embodying certain other novel features of construction, combination, and arrangement of parts, substantially as herein disclosed, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of my improved watchmakers' pliers. Fig. 2 is an edge or top view thereof. Fig. 3 is an enlarged view of the jaws of the tool in partly open position, the handles being broken away. Fig. 4 is an enlarged end view of the jaws partly open. Fig. 5 is an enlarged sectional view of the jaws closed. Fig. 6 is a still further enlarged view of the tips of the jaws with a hair-spring and collet in position therebetween. Fig. 7 is a magnified side view of the jaws with a collet held between the jaws.

In the accompanying drawings, the numeral 1 designates a pair of pliers of the ordinary and well-known type, and the novelty of the invention resides wholly in the manner in which the jaws of the pliers are formed. These jaws comprise the upper member 2 and the lower member 3, (the position of the members being the same in all the views with the exception of Fig. 1, the jaws in this case being the reverse of the other figures.)

One of the jaws, which I have designated as the "upper" jaw 2, is slightly shorter than the other (or lower) jaw, and extending inward from the end of said jaw is a semicircular recessed portion or seat 4, having undercut walls 5, as clearly shown in Fig. 5. From the base of said seat or recessed portion extends a groove or channel 6, which tapers to the inner face of the jaw. The other or lower jaw 3 is extended beyond the upper jaw to a point 7, said point having inclined side faces 8 to form a wedge 9. Shoulders 10 are provided at the base of said point in alinement with the shoulder at the base of the undercut seat 4 in the opposite jaw member. A groove or channel 11 is formed in the inner face of the jaw member 3, extending inward from a point in alinement with the shoulders 10 or, more properly speaking, the foot of the wedge-point.

The operation of the tool is as follows: The collet which is to be removed from the balance-wheel staff is grasped between the tips of the jaws, the one edge of the collet being seated in the undercut recess in one jaw and the wedge-point engaging the opposite side of the collet. The collet is grasped in such position that the wedge-point on the pliers will enter the slot in the collet, (which is properly a split ring or collar,) and then by compressing the jaws the wedge causes the collet to be opened or spread, and the staff may then be readily removed therefrom. The grooves 6 and 11 in the inner faces of the jaws serve to receive the collet-staff after the collet has been spread, and these grooves are also useful when the tool is employed for handling other small objects. The use of my tool in removing the hair-spring will not injure the spring, staff, or collet, since the collet is the only part which is handled by the tool, and the collet being of elastic or springy material it resumes its former dimensions as soon as released from the spreading tendency of the jaws.

From the foregoing description, taken in connection with the drawings, the use and advantages of my improved tool will be readily apparent, and it will be evident that I have accomplished all the objects herein set forth.

I claim—

1. A watchmakers' tool comprising pliers

having coacting jaws, having alining channels on the inner faces thereof, one jaw having an undercut seat, and the other jaw having a wedge-point formed with shoulders at its base in alinement with the seat.

2. A tool comprising coacting jaws, one jaw formed with a wedge-shaped point, the opposing jaw having an undercut, shouldered seat on its inner face to coact with the wedge-point.

3. A tool comprising coacting jaws, one jaw formed with a wedge-shaped point, the opposing jaw having an undercut shouldered seat to coact with the wedge-point, and alining grooves extending inward from the wedge-point and shouldered portion respectively.

In testimony whereof I affix my signature in presence of two witnesses.

DE ROY DEKLE.

Witnesses:
WILLIAM B. THOMAS,
E. W. REID.